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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

05/26/2009

CLARENCE A GREEN  
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425 POST ROAD  
FAIRFIELD, CT 06430

EXAMINER

DEAN, RAYMOND S

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 05/26/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/24/216

02/12/1999

JANNE LAAKSO

297-008493-U

9691

TITLE OF INVENTION: POWER CONTROL METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	08/26/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

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B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail**

**Mail Stop ISSUE FEE  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE-FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/249,216	02/12/1999	JANNE LAAKSO	297-008493-U	9691

**TITLE OF INVENTION: POWER CONTROL METHOD**

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	08/26/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEAN, RAYMOND S	2618	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/147; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

**PLEASE NOTE:** Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

**NOTE:** The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

DEAN, RAYMOND S

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 05/26/2009

## Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 1777 day(s). Any patent to issue from the above-identified application will include an indication of the 1777 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

09/249,216

**Applicant(s)**

LAAKSO ET AL.

**Examiner**

RAYMOND S. DEAN

**Art Unit**

2618

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERIT IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to March 3, 2009.
2. ☒ The allowed claim(s) is/are 2-10, 12, 13, 15, 19-25 and 27-32.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of the:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see page 15 of Applicants' remarks filed March 3, 2009 with respect to the rejection of Claims 19 – 23, 25, 27, 30 – 32 have been fully considered and are persuasive. The rejection of Claims 19 – 23, 25, 27, 30 – 32 has been withdrawn.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Gamberdell (Reg. No. 44,695) on May 19, 2009.

**Regarding Claim 19, Please remove the word “the” from in between the words “form” and “new” in line 10.**

**Regarding Claim 21, Please remove the word “the” from in between the words “form” and “new” in line 18. Please also change the word “or” to the word “of” in line 17.**

**Regarding Claim 22, Please remove the word “the” from in between the words “form” and “new” in lines 19 – 20.**

**Regarding Claim 23, Please remove the word “the” from in between the words “form” and “new” in lines 20 - 21.**

**Regarding Claim 25, Please remove the word “the” from in between the words “form” and “new” in line 17.**

**Regarding Claim 27, Please remove the word “the” from in between the words “form” and “new” in lines 20 - 21.**

**Regarding Claim 30, Please remove the word “the” from in between the words “form” and “new” in lines 18 - 19.**

**Regarding Claim 31, Please remove the word “the” from in between the words “form” and “new” in lines 18 - 19.**

**Regarding Claim 32, Please remove the word “the” from in between the words “form” and “new” in lines 19 – 20.**

**Please also change the dependency of Claim 12 from Claim 26 to Claim 25 (Please Note: The claim are going to be renumbered by Examiner).**

***Allowable Subject Matter***

3. The following is an examiner’s statement of reasons for allowance:

The invention renders the following:

A power control method comprising: determining the transmit power of more than one bearer at a time in a mobile system having at least one mobile station and at least one base station by: forming a control function at least partly on the basis of a quantity which at least partly represents a fast fading experienced by at least one bearer,

calculating the control function in order to determine new output power values of said more than one bearer, generating an interference effect matrix which represents the mutual interference of different bearers, and **inverting the generated interference effect matrix in order to form new power levels.**

A power control method comprising: determining the transmit power of more than one bearer at a time in a mobile system having at least one mobile station and at least one base station by: forming a control function at least partly on the basis of a quantity which at least partly represents a fast fading experienced by at least one bearer, calculating the control function in order to determine new output power values of said more than one bearer, calculating more than one set of output power values, forming a utility function in order to select one set of output power values, selecting the set of output power values which minimizes the value of said utility function generating an interference effect matrix, which represents the mutual interferences of different bearers, and **inverting the generated interference effect matrix in order to form new power levels.**

A software code configured and stored in a processor readable medium, wherein the software code is configured to: communicate at least partly on a spread spectrum technique configured for either at least one mobile station or at least one base station, define at least one bearer as a communication entity between the at least one base station and the at least one mobile station, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, form a control function at least partly on the basis of a quantity which at

least partly represents the control history experienced by the at least one bearer, calculate the control function in order to determine transmit power values to be used for at least one of said bearers, and determine the transmit power for more than one bearer when the transmission rate of the at least one bearer changes so that the control of said at least one of said bearers is arranged to impact the control of other bearers, generate an interference effect matrix which represents the mutual interferences of different bearers, and **invert the generated interference effect matrix in order to form new power levels.**

A base station comprising: a module configured to communicate at least partly on a spread spectrum technique for at least one mobile station and the base station, and wherein a bearer is defined as a communication entity between the base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer, a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact to the control of other bearers, a generator to generate an interference effect matrix,



which represents the mutual interferences of different bearers, and **an inverter to invert the generated interference effect matrix in order to form new power levels.**

A control unit comprising: a module configured to communicate at least partly on a spread spectrum technique for at least one mobile station and at least one base station, and wherein a bearer is defined as a communication entity between the at least one base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer, a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact the control of other bearers, a generator to generate an interference effect matrix, which represents the mutual interferences of different bearers, and **an inverter to invert the generated interference effect matrix in order to form new power levels.**

A power control method comprising: defining at least one bearer as a communication entity between at least one base station and at least one mobile station, wherein the at least one base station or the at least one mobile station is configured to communicate at least partly on a spread spectrum technique, the at least one bearer

including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, forming a control function at least partly on the basis of a quantity which at least partly represents the control history experienced by the at least one bearer, calculating the control function in order to determine transmit power values to be used for at least one of said bearers, determining the transmit power for more than one bearer when the transmission rate of the at least one bearer changes so that the control of said at least one of said bearers is arranged to impact the control of other bearers, generating an interference effect matrix, which represents the mutual interferences of different bearers, and **inverting the generated interference effect matrix in order to form new power levels.**

An element comprising: a module configured to define at least one bearer as a communication entity between at least one base station and at least one mobile station, wherein the at least one base station or the at least one mobile station is configured to communicate at least partly on a spread spectrum technique, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer, a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least

one of the bearers is configured to impact the control of other bearers, a generator to generate an interference effect matrix, which represents the mutual interferences of different bearers, and **an inverter to invert the generated interference effect matrix in order to form new power levels.**

A base station comprising: means for communicating at least partly on a spread spectrum technique for at least one mobile station and the base station, and wherein a bearer is defined as a communication entity between the base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, means for generating a quantity which at least partly depends on the control history experienced by at least one bearer, means for determining the output power values for more than one bearer at least partly on the basis of said quantity, means for controlling the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact the control of other bearers means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and **means for inverting the generated interference effect matrix in order to form new power levels.**

A control unit comprising: means for communicating at least partly on a spread spectrum technique for at least one mobile station and at least one base station, and wherein a bearer is defined as a communication entity between the at least one base

station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, means for generating a quantity which at least partly depends on the control history experienced by at least one bearer, means for determining the output power values for more than one bearer at least partly on the basis of said quantity, means for controlling the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact the control of other bearers, means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and **means for inverting the generated interference effect matrix in order to form new power levels.**

An element comprising: means for communicating at least partly on a spread spectrum technique either for at least one mobile station or at least one base station, and wherein a bearer is defined as a communication entity between the at least one base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication, means for generating a quantity which at least partly depends on the control history experienced by at least one bearer, means for determining the output power values for more than one bearer at least partly on the basis of said quantity, means for controlling the transmit power of at least one bearer on the basis of said

transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact the control of other bearers, means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and **means for inverting the generated interference effect matrix in order to form new power levels.**

The prior art of record fails to teach or render obvious the above underlined and bolded limitations therefore Claims 19 - 23, 25, 27, 30 - 32 and their corresponding dependent claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/  
Examiner, Art Unit 2618  
Raymond S. Dean  
May 19, 2009